

Claim Amendments

Please enter the following amendments, which include cancellation of claims 7-9, 12-13, 16, 24-25, 27-102, 104-105, and 107-122, and amendment of claim 106.

1 (original): A method of identifying an acetyltransferase substrate in a sample, the method comprising combining the sample with

a labeled reagent comprising a thiol,

a halo-acetyl-CoA or a halo-acetyl-pantetheine, and

an acetyltransferase,

under conditions suitable for acetyltransferase enzyme activity, then identifying a substrate that has formed a base-stable covalent bond to the reagent.

2 (original): The method of claim 1, wherein the labeled reagent is the halo-acetyl-CoA or halo-acetyl-pantetheine.

3 (original): The method of claim 1, wherein the labeled reagent is not the halo-acetyl-CoA or halo-acetyl-pantetheine.

4 (original): The method of claim 3, wherein the labeled reagent is a thiol-containing fluorophore.

5 (original): The method of claim 4, wherein the thiol-containing fluorophore is a fluorophore modified with aminoethanethiol.

6 (original): The method of claim 3, wherein the labeled reagent further comprises an oligo-His moiety.

7-9 (canceled)

10 (original): The method of claim 1, wherein the acetyltransferase is selected from the group consisting of a histone acetyltransferase, an N-terminal acetyltransferase, an arylamine N-acetyltransferase, an aminoglycoside acetyltransferase, chloramphenicol acetyltransferase, choline acetyltransferase, carnitine acetyltransferase, spermine acetyltransferase, and ornithine acetyltransferase.

11 (original): The method of claim 1, wherein the halo-acetyl-CoA or halo-acetyl-pantetheine is a halo-acetyl-CoA.

12-13 (canceled)

14 (original): The method of claim 11, wherein the halo-acetyl-CoA is labeled on the adenine group of the CoA.

15 (original): The method of claim 1, wherein the label is radioactive.

16 (canceled)

17 (original): The method of claim 1, wherein the label is fluorescent.

18 (original): The method of claim 1, wherein the label is an affinity label.

19 (original): The method of claim 18, wherein the affinity label is biotin.

20 (original): The method of claim 1, wherein the substrate is a protein.

21 (original): The method of claim 1, wherein the substrate is an antibiotic.

22 (original): The method of claim 1, wherein the substrate is a metabolite less than 500 molecular weight.

23 (original): The method of claim 1, wherein the sample comprises an extract of a cell.

24-25 (canceled)

26 (original): A method of identifying an acetyltransferase substrate in a sample, the method comprising combining the sample with a reagent and an acetyltransferase under conditions suitable for acetyltransferase enzyme activity, then identifying a substrate that is associated with the acetyltransferase,

wherein the reagent is a halo-acetyl-CoA or a halo-acetyl-pantetheine, and wherein the acetyltransferase further comprises an affinity tag.

27-102 (canceled)

103 (original): A halo-acetyl-pantetheine.

104-105 (canceled)

106 (currently amended) A The halo-acetyl-pantetheine with of claim 103, further comprising a label, wherein the label is a detectable label or an affinity label.

107-122 (canceled)